

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing

(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/IB2005/000109

International filing date (day/month/year)
18.01.2005

Priority date (day/month/year)
19.01.2004

International Patent Classification (IPC) or both national classification and IPC
B21C47/30, B21C47/32

Applicant
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | 1-20 |
| | No: Claims | |
| Inventive step (IS) | Yes: Claims | 1-20 |
| | No: Claims | |
| Industrial applicability (IA) | Yes: Claims | 1-20 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following document:

D1: US-A-3 592 399 (WOODROW HAROLD E) 13 July 1971 (1971-07-13)
D2: PATENT ABSTRACTS OF JAPAN vol. 012, no. 157 (M-696), 13 May 1988
(1988-05-13) & JP 62 275980 A (MIRAI IND CO LTD; others: 01), 30 November
1987 (1987-11-30)

1. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):
 - 1.1 A device for coiling a windable long, metal product, comprising a mandrel (32) having a substantially circular transverse section and rotating around a horizontal, vertical or inclined axis, at least a guide and containing device (94,96) able to be driven between a first working position wherein it cooperates with said mandrel (32), and a second inactive position wherein it is arranged distant from said mandrel (32), and at least a clamping device (74) associated with said mandrel (32), and able to clamp at least temporarily an initial segment of said metal product.
 - 1.2 The subject-matter of claim 1 differs from this known device in that said clamping device comprises pincer means (21) able to be selectively activated, which are arranged in correspondence with the outer surface of said mandrel (12).
 - 1.3 The subject-matter of claim 1 is therefore new (Article 33(2) PCT).
 - 1.4 The problem to be solved by the present invention may be regarded provision of a device for winding a product on a mandrel and imposing on a wound coil a desired external form.
 - 1.5 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following

reasons:

- 1.6 A device wherein clamping is carried out by means of pincers on the outer surface of the mandrel allows for the secure clamping of the initial segment of the rolled product about the mandrel without necessitating the separation and protrusion of one or more spirals from the coil, hence allowing the formation of compact coils which may be conveniently stacked upon each other. Devices known from the available prior art clamp spirals outside the dimensions of the main coil which create a stepped area or spirals remaining outside of the main coil (cf D2, figures 1 and 2).
2. Claim 2-16 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
3. The document D1 is regarded as being the closest prior art to the subject-matter of claim 17, and shows (the references in parentheses applying to this document):
 - 3.1 A method for coiling a long metal product, performed by means of a coiling device which comprises a mandrel (32) having a substantially circular transverse section and rotating around a horizontal, vertical or inclined axis, and at least a guide and containing device (94,96), able to be driven between a first working position wherein it cooperates with said mandrel (32), and a second inactive position wherein it is arranged distant from said mandrel (32), wherein it comprises the following steps: a first step wherein a leading end of said metal product is inserted into a groove (94) of said guide and containing element (94,96) arranged in said first working position, so as to guide said metal product along an outer circumference of said mandrel (32), a second step wherein said metal product is gripped and clamped at least temporarily on said mandrel (12); a third step wherein said guide and containing element (95,96) is taken from said first working position to said second inactive position; and a fourth step wherein said metal product is wound for the remainder of its length.
 - 3.2 The subject-matter of claim 17 differs from this known method in that in said second step said metal product is gripped and clamped by means of one or more pincers (21) arranged in correspondence with the outer surface of said mandrel (12).

- 3.3 The subject-matter of claim 17 is therefore new (Article 33(2) PCT).
- 3.4 The problem to be solved by the present invention may be regarded as provision of a method for winding a product on a mandrel and imposing on a wound coil a desired external form.
- 3.5 The solution to this problem proposed in claim 17 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:
- 3.6 Clamping by means of pincers on the outer surface of the mandrel allows for the secure clamping of the initial segment of the rolled product about the mandrel without necessitating the separation and protrusion of one or more spirals from the coil, hence allowing the formation of compact coils which may be conveniently stacked upon each other. Devices known from the available prior art clamp spirals outside the dimensions of the main coil which create a stepped area or spirals remaining outside of the main coil (cf D2, figures 1 and 2).
4. Claim 18-20 are dependent on claim 17 and as such also meet the requirements of the PCT with respect to novelty and inventive step.